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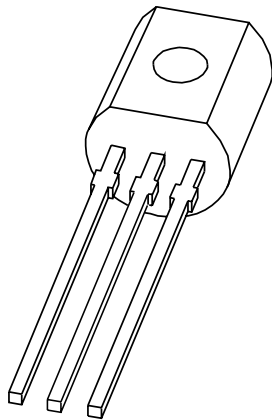
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DATA SHEET



MPSA92 PNP high-voltage transistor

Product data sheet
Supersedes data of 2001 Dec 07

2004 Aug 20

PNP high-voltage transistor

MPSA92

FEATURES

- Low current (max. 100 mA)
- High voltage (max. 300 V).

APPLICATIONS

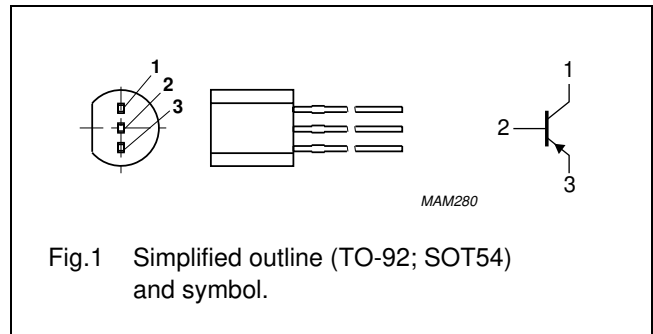
- General purpose switching and amplification.

DESCRIPTION

PNP high-voltage transistor in a TO-92; SOT54 plastic package. NPN complement: MPSA42.

PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | collector |
| 2 | base |
| 3 | emitter |



LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|-----------|-------------------------------|---|------|------|------------------|
| V_{CBO} | collector-base voltage | open emitter | - | -300 | V |
| V_{CEO} | collector-emitter voltage | open base | - | -300 | V |
| V_{EBO} | emitter-base voltage | open collector | - | -5 | V |
| I_C | collector current (DC) | | - | -100 | mA |
| I_{CM} | peak collector current | | - | -200 | mA |
| I_{BM} | peak base current | | - | -100 | mA |
| P_{tot} | total power dissipation | $T_{amb} \leq 25\text{ }^\circ\text{C}$ | - | 625 | mW |
| T_{stg} | storage temperature | | -65 | +150 | $^\circ\text{C}$ |
| T_j | junction temperature | | - | 150 | $^\circ\text{C}$ |
| T_{amb} | operating ambient temperature | | -65 | +150 | $^\circ\text{C}$ |

PNP high-voltage transistor

MPSA92

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|---------------|---|------------|-------|------|
| $R_{th\ j-a}$ | thermal resistance from junction to ambient | note 1 | 200 | K/W |

Note

1. Transistor mounted on an FR4 printed-circuit board.

CHARACTERISTICS

$T_j = 25\text{ °C}$ unless otherwise specified.

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|-------------|--------------------------------------|--|----------------|-------------|------|
| I_{CBO} | collector cut-off current | $I_E = 0; V_{CB} = -200\text{ V}$ | – | –250 | nA |
| I_{EBO} | emitter cut-off current | $I_C = 0; V_{BE} = -3\text{ V}$ | – | –100 | nA |
| h_{FE} | DC current gain | $V_{CE} = -10\text{ V}$; note 1 $I_C = -1\text{ mA}$ $I_C = -10\text{ mA}$ $I_C = -30\text{ mA}$ | 25 40 25 | – – – | |
| V_{CEsat} | collector-emitter saturation voltage | $I_C = -20\text{ mA}; I_B = -2\text{ mA}$; note 1 | – | –500 | mV |
| V_{BEsat} | base-emitter saturation voltage | $I_C = -20\text{ mA}; I_B = -2\text{ mA}$; note 1 | – | –900 | mV |
| C_c | collector capacitance | $I_E = i_e = 0; V_{CB} = -20\text{ V}; f = 1\text{ MHz}$ | – | 6 | pF |
| f_T | transition frequency | $I_C = -10\text{ mA}; V_{CE} = -20\text{ V};$ $f = 100\text{ MHz}$ | 50 | – | MHz |

Note

1. Pulse test: $t_p \leq 300\text{ }\mu\text{s}$; $\delta \leq 0.02$.

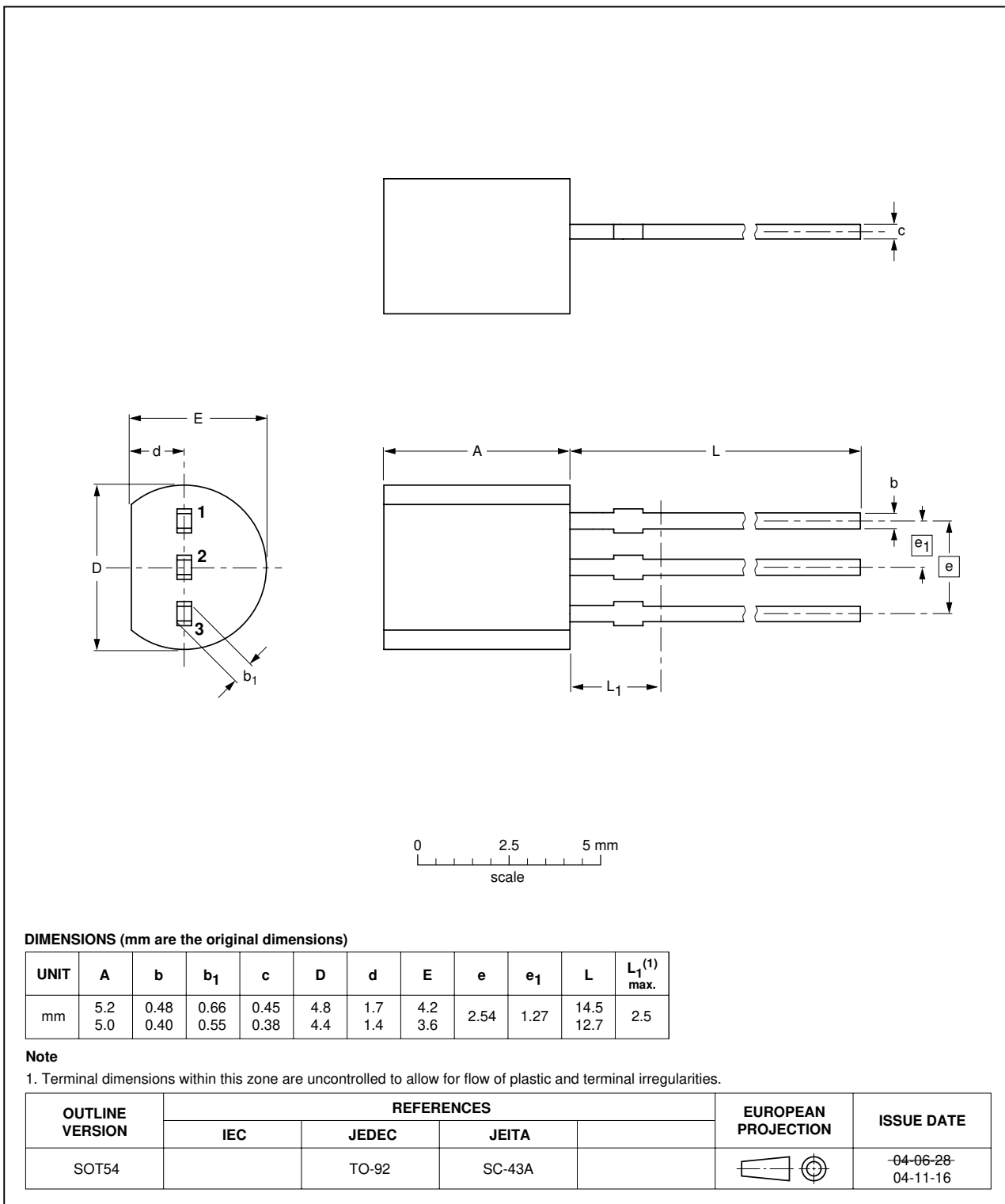
PNP high-voltage transistor

MPSA92

PACKAGE OUTLINE

Plastic single-ended leaded (through hole) package; 3 leads

SOT54



PNP high-voltage transistor

MPSA92

DATA SHEET STATUS

| DOCUMENT STATUS ⁽¹⁾ | PRODUCT STATUS ⁽²⁾ | DEFINITION |
|--------------------------------|-------------------------------|---|
| Objective data sheet | Development | This document contains data from the objective specification for product development. |
| Preliminary data sheet | Qualification | This document contains data from the preliminary specification. |
| Product data sheet | Production | This document contains the product specification. |

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Customer notification

This data sheet was changed to reflect the new company name NXP Semiconductors, including new legal definitions and disclaimers. No changes were made to the technical content, except for package outline drawings which were updated to the latest version.

Contact information

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